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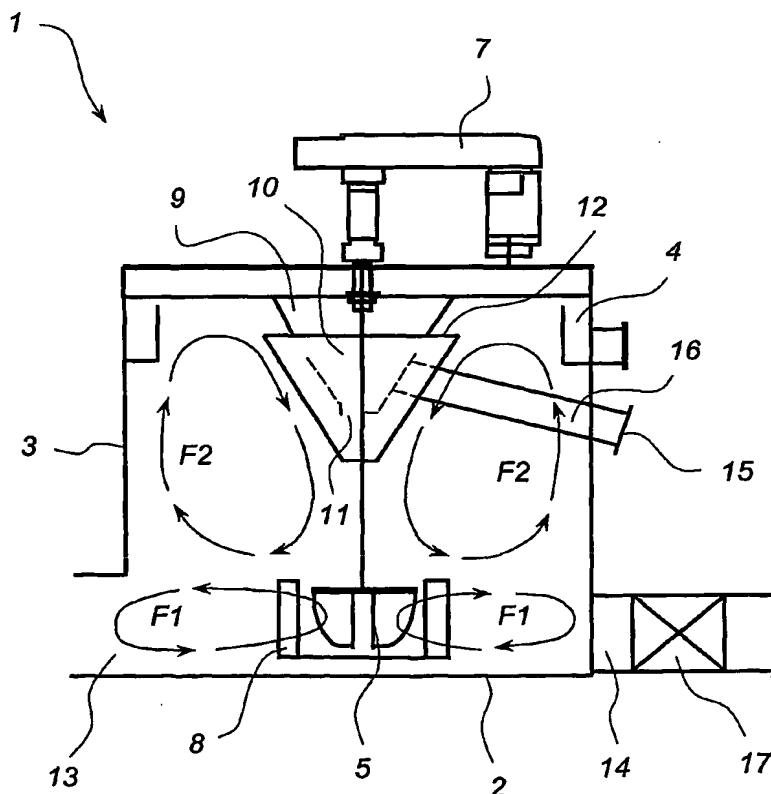
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(54) Title: A SEPARATE SIZE FLOTATION DEVICE



(57) Abstract: The invention provides a flotation device including a series of flotation tanks (1) for processing a slurry incorporating valuable minerals for extraction. At least one of the tanks includes a side outlet (15) adapted for the withdrawal of targeted relatively fine coarse particles from the slurry. The tanks also include a bottom outlet (14) for the withdrawal of relatively dense or coarse components of the slurry. The incorporation of bottom and side outlets allows the slurry to be separated into two parallel streams, one configured for optimal recovery of the relatively coarse or dense slurry components and the other for optimal recovery of the relatively fine slurry components. In this way, outflow slurry from downstream tanks in the coarse particle stream has a higher proportion of coarser particles than was present in the inflow slurry from the upstream tanks. Consequently, when a flotation reagent is added to the slurry in the downstream tanks, there is a greater probability of coating some of the larger particles. Therefore, the probability of floating these larger particles increases in the downstream tanks. This in turn increases the overall efficiency of the flotation process.



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